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AIR MINISTRY

METEOROLOGICAL RESEARCH COMMITTEE

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~~SECRET~~

LONG-RANGE FORECASTS

Trial at Dunstable October 1942 - March 1943

Report on results

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Attached hereto is a comparison between the general type of weather and that predicted by the L.R.F. Unit.

The opinion formed by the Senior Forecasters and myself is that the standard is not sufficiently high to enable them to be used in the work of M.O.2 (A). Our "period" forecasts are based mainly on the persistency of the existing type. In the past winter forecasts based on persistence gave apparently better results than the long-period forecast isobars. Some time ago I gave actual pressure figures which proved this for the early part of the winter, and I believe that numerical tests of pressure would show it for the whole winter. The past winter may have been abnormal in that respect. The S./ type was very prolonged in January and February and also lasted for a fortnight in December. The November and March anticyclones were also unusually persistent.

It is impossible to judge from a general assessment as to whether the results are better than could be obtained at random.

Note on the General Type of Weather and the Type Predicted

OCTOBER

About October 21st, when the first forecast was issued, there was a S./ current over the British Isles, with an anticyclone over the Bay of Biscay and low pressure in the Iceland area. Subsequently low pressure spread over the British Isles and there was a notably wet spell from 25th to 30th with depressions at times centred over the British Isles. Wind became N/ to N from 28th to 31st.

The forecast showed unsettled westerlies throughout this period, this type being maintained on the forecast issued on October 27 for 29th.

NOVEMBER

The situation over the British Isles was flat for the first five days of November, and became southwesterly on 6th with a very deep depression over Iceland. An anticyclone over the Bay of Biscay on 8th moved N/ to the southern North Sea next day and began a long anticyclonic period. A new anticyclone came in from the Atlantic and assumed marked intensity over Ireland on 16th. It persisted with varying intensity till the end of the month.

The forecast issued on October 27th indicated southwesterlies on November 1st and 4th and an anticyclone over the North Sea on November 7th, but this last feature was dropped on later issues. The development of the anticyclone was not forecast beforehand though the forecast for November 19th issued on 14th shows it in substantially the right position. The forecasts for later dates indicated a change to a westerly type which did not materialise.

DECEMBER

FGIA

A flat pressure distribution with rather cold weather changed to a mild

unsettled S/ type on 4th which lasted till 22nd. The forecast for December 1st showed a pronounced westerly type. The forecast issued on December 2nd showed a complex type of situation which would have given low temperatures till 7th, becoming milder later but changing to a ... to N/ rather than a S/ type.

On December 22nd an anticyclone started to spread up from south and from 25th to 27th the south of England was in the anticyclone with considerable fog.

The forecast issued on December 19th shows the anticyclone already over Southern England. Though this was premature, it indicated the correct change of type.

A cold northerly current became established over the British Isles on 29th. This was not indicated on the forecast charts till January 3rd.

JANUARY - FEBRUARY

A depression crossed the British Isles on 1st and in its rear there was a brief renewal of cold northerlies. The forecast for January 3rd was thus successful.

There were complex conditions with intermittent frost till January 9th, and thereafter a mild stormy S/ type which continued till February 18th in the South and till March 2nd in the North. There were no major interruptions of this type, but there was a quieter interval from January 21st - 23rd and a brief cold outbreak on February 7th. The change to a mild type was not shown on the forecast issued on December 31st or January 6th, the latter indicating a complex pressure distribution till 18th.

The forecast charts showed an anticyclone over England on January 24th which was maintained till February 11th on all the issues. This had no resemblance to the actual stormy S/ type which had its climax in the exceptionally severe gale of January 31st.

An anticyclone actually did cover Southern England on February 18th and intermittently till the end of the month. The forecasts showed an unsettled southwest type during this period.

MARCH

Early in the month the anticyclone spread north and conditions were generally anticyclonic till 8th. The forecast issued on February 24th shows the anticyclone covering the south on 4th and the British Isles on 7th, the indicated change being correct but late as regards timing.

Between March 8th and 17th the ridge of high pressure was either over or just south of England and rainfall was low. In North Scotland and over the area to northwards conditions were stormy with gales at times. The forecast issued on February 25th for March 10th (i.e. mean for 9-11) was substantially right for the south but it did not indicate the storminess in the North, though it gave the correct direction for the isobars.

On March 17th the type changed and was E to SE till 25th. The forecast for March 19th and 22nd (Nos. 37 and 38) did not give the right type. No.39 shows an indefinite col over England on March 22, and a S/ type on 25th. Actually winds were still east on 25th but rain had spread up and conditions were changing. The type was westerly from 26th onwards becoming stormy on 29th-31st. The forecasts were quite good but the direction of the isobars was 45° out over England and the rather low pressure and cyclonic curvature of the forecast charts would have given substantially more rain than actually fell.

SECRET

APRIL (1st -15th)

An anticyclone centred to S./ on 1st moved east and covered England on 3rd and 4th. On 5th a depression spread from north and there was a pronounced N. type till 9th with gales on 5th and notably on 7th.

The type then became ./ to S./ but was feebly developed except in the extreme north. Conditions were dry in the south.

The forecast showed an anticyclone over the Bay of Biscay on 3rd, south of its actual position. On 6th it showed a S./ type with very low pressure to N.. The forecast for 9th and 12th showed a S./ type with cyclonic curvature over the British Isles.